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**CHEMICALS WEB SITES****Producers, third-party exchanges gear up for the online buy**

By Christopher Reilly  
Purchasing  
December 16, 1999

Whether chemical buyers are Internet savvy or not, no one can deny the potential benefits in efficiency, global reach, and reduced costs that the Internet offers chemical purchasing professionals. Web sites can help chemical buyers find new sources, reduce prices and transaction costs, easily locate and disseminate product and safety information, and access online communities where chemical buyers and sellers meet, exchange information, and, in some cases, conduct transactions.

While only a handful of chemical Web sites currently offer e-commerce capabilities, many analysts and research firms believe that chemicals will soon be a major part of business-to-business e-commerce. According to a recent study of Internet e-commerce by Andersen Consulting's global chemical practice, "It is estimated that up to 15% of the \$1.6-trillion chemical industry will move through Internet exchanges within the next three to five years."

Another similar report by Forrester Research, based in Boston, Mass., predicts business-to-business e-commerce across all industries will grow to \$1.3 trillion by 2003 as companies realize lower pricing and greater efficiencies in the virtual marketplace. "Customers driven by pricing and availability work with multiple vendors to purchase commodity products and are constantly fluctuating between retaining a small supplier group for efficiency and enlarging the supplier base to lower their costs through increased competition," the report states.

These estimates may be staggering to some and conservative to others, but many chemical companies are developing some form of e-commerce capabilities for fear of being left behind, if for no other reason.

Also, third-party chemical exchanges have sprung up around the world to offer virtual marketplaces, bringing together buyers and sellers of a variety of chemical products and services.

**E-commerce formats**

Online chemicals purchasing currently is possible in a number of ways, each with its own strengths and weaknesses.

Some sites offer product catalogs, others present live online auctions. Still others involve online exchanges, where buyers and sellers can meet and conduct transactions. These sites typically are hosted by a third party that maintains the site and provides other value-added offerings, such as product or industry information.

The online chemical exchange is a relatively new animal in chemical supply. One such exchange is ChemConnect, at [www.chemconnect.com](http://www.chemconnect.com). From what started out about four years ago as a bulletin board resource for the industry has grown into what the company calls the largest chemicals industry exchange.

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"In late 1998, we estimated 10,000 individual users on the bulletin board, and through one of our user surveys we found that we had moved about \$15 billion on the site over a four-year period," says Linda Stegeman, senior vice president of marketing at ChemConnect.

"Now, our average transaction size is a little more than \$100,000, and we do about \$14 million/month in chemical transactions," she says.

Stegeman explains that the site and the exchange were built from the ground up, in their own format, rather than with off-the-shelf auction software. "Everything is negotiable, not just the price of the product, but also shipping costs, quality, grades, etc., Stegeman says.

"Right now, we're trying to keep barriers of use to a minimum," she says. "Buyers can view information about products and even witness transactions and negotiations taking place without being a member, or even having to register for the site."

The company doesn't charge a membership fee, either. "We charge, only on completed transactions, a standard commission that depends on the volume of the transaction," Stegeman says. "For large-volume deals, we charge the seller 0.2% for petrochemicals sold, for instance. For smaller-volume products, (which includes anything other than petrochemicals), the 0.2% is split between buyer and seller," she says.

The products offered for sale on the ChemConnect exchange are divided into several categories, including petrochemicals, plastics and polymers, basic industrial chemicals, specialty and fine chemicals, pharmaceutical chemicals, agrochemicals, and research chemicals. In addition, the exchange lists the number of product offerings in each section, so buyers can see the amount of activity in each category.

An added benefit of the Internet exchange format is the possibility for materials sold to reach a true market price. According to Forrester Research, "Online commodity exchanges enable buyers and sellers to price products according to real-time demand and supply, making market-clearing prices without artificial price supports the norm."

Another chemicals exchange, CheMatch, ([www.chematch.com](http://www.chematch.com)) touts this benefit of online purchasing and emphasizes the importance of being anonymous when conducting real-time online negotiations.

"Anonymity creates true market efficiency," says Matt Frye, CheMatch VP of sales and marketing. "Anonymity makes it possible for producers, distributors, traders, and other participants to sell large quantities of chemicals discreetly without disturbing the market," he says. "In this way, pricing becomes based on the real-time market value of a given commodity at a specific time," Frye says.

Even if they're not buying, purchasing professional can use the chemicals exchange format to gather strategic market information and research actual market prices for commodity materials. The site also offers summary reports to registered users with completed transaction histories by products, pricing, and geographic region, without revealing the names of the parties involved.

Online exchanges offer buyers the opportunity to find and do business with new suppliers--some of which many buyers may not be familiar with. Third-party hosts see this as a major potential benefit. "Customers driven by pricing and availability work with multiple vendors to purchase commodity products and are constantly fluctuating between retaining a small vendor group for efficiency and enlarging the vendor base to lower their costs through increased competition," says Brad Lich, vice president of marketing for e-Chemicals, an online chemicals exchange, located at [www.e-chemicals.com](http://www.e-chemicals.com).

The auction model

Another chemical Web site offering e-commerce capability is ChemicalBid, located at [www.chemicalbid.com](http://www.chemicalbid.com). According to Wes Alexander, accounts executive, the site was developed as an offshoot of an online venture created in 1995 by Tulstar, a small chemical distributorship located in Tulsa, Okla.

ChemicalBid offers a chemical auction approach. Items on the site are listed by

product under alphabetical product category headings, which, according to Alexander, makes the site easy to navigate for buyers looking to secure specific products.

"A lot of online chemical exchange companies generalize their product category breakdowns," Alexander says. "We break the chemical product categories down very specifically, so that buyers can easily find exactly what they want."

Producers post product offerings on the site with a reserve or "ground-floor" bid. Alexander explains that the site is designed in this way to discourage underbidding, "Which defeats the purpose of the auction and works to no one's favor," he says.

The auction begins when a producer posts an ad describing the product for sale and asks for what they feel is a fair price for the material. Then, registered buyers are invited to post their bids. Next, participating buyers are e-mailed that they have placed a successful bid or that they have been outbid. If the buyer is outbid, they have the opportunity to re-bid if they wish, until a specified period of time elapses.

While the site is small in comparison to some of the other online third-party chemical trading sites, it has been offering product in an auction format since 1995 and recently revamped that format in July of this year. In addition, Alexander says he has seen his sales on the auction site triple in the past three months.

"As a third party in this position, we feel that one of our primary strengths is our chemical business knowledge," Alexander says, "because we are primarily a chemical distributorship. We think this will be a major plus for us, because some of the other third-party exchanges are mainly technical and marketing companies, unable to deliver specific market knowledge and experience," he says.

#### Chemical supplier sites

While most chemical companies are formulating some type of e-commerce capability, a few chemical companies have led the charge of selling chemicals and products online.

Among them is Eastman Chemical, Kingsport, Tenn., which has been selling chemicals from its online product catalog for more than a year.

According to Fred Buehler, Eastman's director of e-business, "We started with a pilot program, which was then expanded in February, 1999," he says. "Then in July, we went live with the site, offering full e-commerce capabilities," says Buehler.

In setting it up, Buehler says he looked at how Eastman interacts with customers to provide information, technical services, and e-commerce interfaces for customers. "The concept of the site was to create a customer service tool to add value," he says.

While he would not comment on the amount of business done on the company's site, Buehler says that about 98% of the products Eastman makes are available for sale from their online catalog. "Providing all the specs and other information in the product catalog was one of the most challenging things about going online with the site," he says, "And that information is constantly being updated."

What does the future hold for e-commerce? Buehler says that transacting dollars and information through e-commerce will have a profound impact on the way chemicals are bought and sold in the future.

"The chemical industry is somewhat of a laggard when compared to e-commerce used in other industries, such as the electronics industry and book publishing," says Buehler. But he sees the move toward full-scale e-commerce on the part of chemical companies in the near future. "The rules for e-commerce in the chemical industry will be set in the next 12-18 months."

"What we have done is just a start," says Buehler, "It's really just a prototype of what is to come in terms of e-commerce."

Buehler says that it is Eastman's goal to continue to be aggressive in setting up the technological infrastructure to make these transactions possible and to continue to be a leader in e-commerce.

One way Eastman is adding value to its e-commerce initiatives is by partnering with Dell Computer and UUNET to form a "customer-enabling program" designed to make it easier for Eastman customers in the United States to engage in electronic commerce via [www.eastman.com](http://www.eastman.com).

The program helps customers who do not have computer hardware or Internet access to obtain these capabilities from Dell and uunet.

"Through our relationships with Dell and UUNET as well as our customer help desk, we're providing solutions to the barriers some of our customers face in doing business electronically," Buehler comments.

Another chemical producer with a form of e-commerce in operation is Air Products and Chemicals at [www.airproducts.com](http://www.airproducts.com). Air Products has even developed a corporate e-business team to address the online ordering issues and the direction of the company's e-commerce ventures.

A major chemical distributor also has e-commerce capability up and running. Van Waters & Rogers' site, [www.vwr-inc.com](http://www.vwr-inc.com), offers real-time pricing and order entry and provides material safety data sheets (MSDS) and certificates of analysis. It also tracks and compiles order histories for the company's lines of monomers, intermediates, acids, surfactants and solvents, organic and inorganic salts, inhibitors, stabilizers and additives, and process chemicals.

Several other chemical companies are currently developing e-commerce programs and applications, which are expected to be operational in 2000. They include:

[www.ashdist.com](http://www.ashdist.com)--Ashland Distribution Co.'s FRP Supply Division is launching customized electronic ordering capabilities for its registered customers. The site includes access to a variety of business-to-business online information and services through a secured gate. Customers can place orders, obtain account information, review order history, and customize profiles and order records.

In addition, Ashland is developing similar electronic ordering capabilities for its General Polymers and Industrial Chemicals and Solvents Divisions. Through a strategic alliance with e-Chemicals Inc., Ann Arbor, Mich., Ashland's Industrial Chemicals and Solvents (IC&S) Division will offer products through [www.e-chemicals.com](http://www.e-chemicals.com).

Effective December 1, 1999, the alliance enables Ashland's existing customers to order chemicals, solvents, additives, and raw materials from a listing of about 500 products, according to an Ashland press release. Ashland expects to expand its online product offering through e-Chemicals to include about 2,500 products by the spring of 2000.

[www.oxychem.com](http://www.oxychem.com)--Occidental Chemical Corp., (OxyChem) has recently created an office of eBusiness as part of a broad undertaking to expand electronic business capabilities throughout its supply chain. The effort is directed by Charles Clark, who has been appointed to the newly created position of vice president, eBusiness.

While Clark says that some of OxyChem's e-commerce applications are currently being fine-tuned, further development and implementation of the eBusiness plan will be conducted in concert with the company's business strategy and customers' needs.

[www.dow.com](http://www.dow.com)--Dow Chemical has formed a global alliance with Andersen Consulting, a provider of information systems and related resources. Objectives of the alliance include enabling Dow to optimize its information-technology investments and achieve an anticipated 30% increase in productivity, according to a Dow press release.

[www.dupont.com](http://www.dupont.com)--DuPont has also created a new e-business unit and appointed J. Erik Fyrwald, former vice president, Corporate Plans, to the newly created position of vice president, E-Commerce and Business Development.

The e-business unit has been charged with strengthening the company's online capabilities to more fully participate in e-commerce.

Buyers speak out

Jim Bollnow, purchasing manager at Wyckoff Inc., a division of Catalytica Pharmaceuticals, says that convenience is what makes buying materials on the Internet so attractive. "We work very busy schedules," he says, "Online product ordering gives me the option of placing an order at any time of the day, including evenings and weekends. I can also view my current orders and my ordering history," he says.

Bollnow says he has used E-chemicals' system about five times in the past year to procure dimethyl sulfoxide, (DMSO), a solvent manufactured by Gaylord Chemical in Slidell, La. "In all, I've done about \$50,000 in business."

"Online support is a strength of the site," says Bollnow. "The first couple of times I used e-chemicals' online ordering, the people there were very good about walking me through the process. We placed my first orders online together," he says.

Savings can be found in time spent on orders and in accounting and administrative costs. "You cut one check for the supplier and one for the freight carrier," Bollnow says. "That's savings that you don't realize, but if every supplier did that, or if you were dealing with many different products, you'd probably save quite a bit each month," he says.

"The exchange format provides us with another sourcing option with a very limited investment in time," says an online buyer based in the Midwest. "And suppliers on these sites offer reasonable prices because they are competing alongside other producers for buyers business," he says.

Kevin Polucha, purchasing manager at Quality Polymers, Inc., a small chemical distributorship located in Long Beach, Calif., used ChemConnect's online chemical exchange to get out of a product availability bind.

"Recently, we purchased about 70,000 lb of film-grade low-density polyethylene (LDPE) out of necessity to fill a customer's order," Polucha says. "During this summer's supply shortage for plastics, we were looking for another method of finding material at a reasonable price."

"The experience with ChemConnect was our first experience of buying anything over the Internet, and initially, we had some reservations about the quality of product, information security, and the anonymous nature (primarily of the seller) on the site," he says. "In addition, we knew we wanted to buy only material produced domestically."

Security has been a significant concern of chemical buyers and suppliers alike. But with the release of advanced encryption and firewall technologies, that concern seems to have ebbed somewhat. Most companies conducting business on the Internet have taken the necessary security measures, such as the installation of Internet "cookies" which recognize the online "fingerprint" of users. Also, password-protected services as an added measure have set many buyers' security concerns at ease.

"The experience has also led to some opportunities to sell product overseas," Polucha says. "Suddenly, we have the potential of going from a small regional distributor to a national distributor," he says. "It's exciting."

George Werlang, a chemical commodities trader with Voest Alpine, an Austrian international commodities trading house, based in Houston, Texas, has used CheMatch's real-time exchange format to source a wide range of industrial chemicals and products for the pharmaceutical, feed, and food industries.

"We buy large volumes of ethylene, propylene, butadiene, styrene, toluene, mixed xylenes, and some other aromatics via the online site," says Werlang.

Currently, Werlang says that the amount of business he does on CheMatch represents about 10%-20% of their total commodities trading. In fact, in the last 30 days from this writing, Werlang says he completed nine transactions with CheMatch, encompassing more than 1,000 tonnes and 150,000 barrels of product.

"For us, the site is another way of doing business, and it's an easy way to offer material or capture a number of barrels without the market knowing it's us," he says.

"Increasingly, our industry is being based on information," Werlang says. "In order to trade commodity chemicals effectively, we need strategic market information. In order to get the information, we need direct contact with the market players," he says. "With the exchange format provided by CheMatch, we get all this with a minimal investment in time and money."

#### Niche sites

Buying chemicals often presents special challenges in packaging, handling, shipping, and other areas. To deal with these challenges, several new Internet players are offering a variety of specialty or niche services to complement online buying. Also, Internet chemical suppliers are partnering with transportation and credit-services partners to develop and offer additional value-added services such as order tracking and transaction monitoring to sweeten the prospect of online materials procurement for buyers.

One company, Worldwide Testing ([www.worldwidetesting.com](http://www.worldwidetesting.com)) addresses the issue of third-party product quality, laboratory testing, and certification.

Basically, the company acts as a liaison between the purchasing company, the selling company, and the independent laboratory, coordinating laboratory testing of product samples before the product is purchased.

"We have the option of some 6,000 chemicals that a seller can have tested," says Danny Day, president and chief executive officer of the company. "We pre-populate that with industry-standard testing procedures--all the tests for that particular chemical are available, and each one will generate a price," he says.

"This system," says Day, "Cuts down on the turnaround time required to complete the testing and also eliminates waste because buyers' companies don't have to test materials they wouldn't even consider purchasing once the results are in," he says.

"Essentially, a sample is pulled by the sampling company and sent to the laboratory, along with all the specifications, ways, and methods that should be used to test the material," Day says. "Once the sample is tested, the resultant data is entered onto the site, where it may be accessed from the trading exchange."

"So, on the trading exchange, buyers see a listing for a specific product, and next to that there is an icon that allows them to review the laboratory's testing results," Day says.

According to Day, there are laboratories available in more than 180 countries that are supported by the worldwide testing network.

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